



EWP

Emergency Watershed Protection

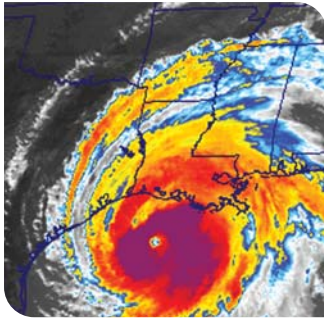
HURRICANE RITA RECOVERY REPORT
2005-2008

TEXAS

insideREPORT



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NRCS responds to Hurricane Rita in east Texas



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Rita's wind speed at landfall and the billions of dollars in estimated insured damage



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Since 1935, the Natural Resources Conservation Service (NRCS) has helped America's private landowners and managers conserve their soil, water, and other natural resources. The agency administers the Emergency Watershed Protection program in addition to other natural resource conservation programs that provide environmental, societal, financial, and technical benefits.

What took hurricane Rita a matter of hours to destroy has taken communities along the Texas Gulf Coast months to piece back together. In the days prior to Rita's landfall, the United States Department of Agriculture (USDA) NRCS began making preparations to respond as quickly as possible to damage caused by Rita.

HELP

NRCS Responds to Hurricane Rita

Residents of east Texas will not soon forget Sept. 24, 2005. It was in the early morning hours of that day when Hurricane Rita roared through the Gulf as one of the most powerful hurricanes on record, sending more than 2.5 million people fleeing in anticipation of its wrath.

Some people chose not to leave.

"My 15 officers and I chose to ride out the storm in the police station," says Norman Reynolds, the Lumberton, Texas, police chief and city manager, a position he has held for the last 17 years. "Our job is to protect the people. That's what we're here for; so we stayed to do our job."

The officers kept a vigil watch over the town, resorting to cell phones and generators when city utility sources went down. Even during the height of the storm, the policemen responded to several calls from people trapped in their homes by fallen trees.

"We sat in the police station and could hear the trees crashing outside, so we knew it was bad," Reynolds says. "But when we went outside the next morning, the destruction was almost too much to believe. It was like a war zone."

According to Reynolds, there were nine square miles of downed trees around Lumberton; and 80 percent of the 80 miles of city streets were impassable.

"What are we going to do about this mess?" thought Reynolds, echoing the sentiments of millions of other southeast Texas residents, as they saw daylight dawn over Rita's wrath.

"Shortly after the storm we began to worry about debris blocking drainage ditches and the flooding threat it posed," Reynolds relates. "We knew it was a problem, but we didn't have the equipment, the manpower, or the money to even try to think about clearing them."

Just to the east, Orange County Drainage District manager, Wilbur Duhon, was having similar thoughts. The most visible results of Rita were extreme wind damage to homes, businesses, utilities, flooding, and fallen trees everywhere.

"I knew we were going to have drainage problems," Duhon says. "So many trees had fallen into the bayous we knew there were going to be some major flooding problems if we didn't get something going quick. We just didn't know how we were going to get it done."

In the days prior to Rita's landfall, the USDA Natural Resources Conservation Service (NRCS) began making preparations to respond as quickly as possible to damage caused by Rita. Under the authority of the Emergency Watershed Protection (EWP) program, NRCS services and EWP funds are made available at the request of local units of government.

EWP was established by Congress to respond to emergencies created by natural disasters. It is designed to relieve imminent hazards to life and property caused by watershed impairment as the result of floods, fires, windstorms, and other natural disasters.

All EWP projects must be sponsored by a political subdivision of the state, such as a county, city, or other special purpose district. EWP funds are made available for emergency measures to safeguard lives, property, and protect the public health from an imminent hazard.

Fortunately, no NRCS employees were injured; however, several employees, like many other residents in affected communities, suffered damage to their homes and were without water supplies for many days, and electricity for many weeks. But that didn't stop them from working at Federal Emergency Management Agency (FEMA) field operation stations, handing out water, helping deliver supplies, helping to clear roadways and other immediate relief efforts.

Because NRCS has offices in every county and employees knew the rural areas well, they were called upon to assist with the safety and well-being of rural residents in the emergency immediately following Rita.

"After a natural disaster like Hurricane Rita," says John Mueller, NRCS state engineer, "one of the first things we start doing is going into communities and letting them know



Photo Courtesy of Gary Stelly, KOGT Radio, Orange, TX



Photo Courtesy of Gary Stelly, KOGT Radio, Orange, TX



Photo Courtesy of Gary Stelly, KOGT Radio, Orange, TX

about the services available through the EWP program. A lot of the smaller towns aren't aware of how we can help remove debris to prevent future flooding problems and get their infrastructure to the point that it isn't a danger to residents."

Once it has been determined that a community is eligible for EWP disaster assistance, NRCS staff go out into the field to do Damage Survey Reports (DSR). The DSR teams assess damages that have occurred adjacent to public facilities such as rural roads, bridges and, streams that pose a hazard to the public.

After the DSRs have been completed, the NRCS commits priority EWP funds for exigency work. An exigency situation exists where there is an eminent threat to the watershed or watershed structures, such as debris stacked against a bridge, blocked drainage ways that will result in flooding during the next significant storm, or even dead animals that pose a threat to water quality.

Many NRCS employees had families that were still evacuated, but because of their commitment to help local communities, they were back at work within days, despite lack of water and electricity. Several RV trailers were rented to serve as temporary housing and portable NRCS offices.

Five NRCS pickup trucks, equipped with satellite telecommunication's equipment such as Global Positioning System (GPS) units, mobile broadband wireless service, printers, faxes, and satellite telephones were dispatched to the disaster stricken area, along with additional staff from other parts of Texas.

The fully functional satellite trucks provided network connectivity in the Beaumont and Jasper field offices that suffered telephone, internet and electricity outages. These mobile offices were especially helpful in the field with DSR teams, as they were able to transmit data back to the NRCS office headquarters.

Their use helped NRCS respond to disaster victims and deliver financial assistance in a timelier manner. NRCS staff utilized the broadband mobile wireless vehicles to map out the hardest hit areas while connected to the USDA network.

The hurricane thoroughly disrupted the lives of everyone impacted.

"We were receiving around 1,000 phone calls a day for over three weeks from people needing help," remembers Reynolds in the post-Rita craze. "In the beginning we had no water and no electricity. Things were primitive.

"Then, out of the blue, people from NRCS showed up to offer clean up assistance and help us obtain funds to get the work done," Reynolds states. "From obtaining the grant, to helping with the bids and seeing that the work was done properly, they helped us immensely."

Immediately after the hurricane, Orange County residents

were benefiting from the clean up work done by the Orange County Drainage District. According to Duhon, NRCS officials worked with his staff of surveyors and crew supervisors to determine the best methods for debris removal.

"The financial help we received from the EWP program has been tremendous," Duhon expresses. "By being able to get help from contractors, it has helped us accelerate our schedule and get our work done quicker.

"The NRCS people we worked with were really so helpful," says Duhon, who saw clean up efforts extend through much of 2006. "They were a pleasure to work with and made our job a lot easier."

In addition to fallen trees and blocked waterways, poultry deaths soon became a problem. The hurricane hit in some of Texas' top poultry-producing counties. While the initial impact of the hurricane didn't harm the chickens, the real threat was lack of water and power to cool the poultry barns in temperatures that soared into triple digits.

"The land will be
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but the people are not.
They are coming back."

- Norman Reynolds

While many poultry farms received enough fuel supplies to keep generators going to cool the barns, some producers weren't so lucky. By the time the effects of Rita had taken its toll on the poultry industry, over 278,000 chickens had perished. Because their burial could pose a threat to water quality in the area, the NRCS was called in to properly dispose of the carcasses. The work was done in cooperation with the Texas Animal Health Commission, through a mission assignment from FEMA. The local Soil and Water Conservation Districts and Texas State Soil and Water Conservation Board also were essential partners for the disposal process.

By January 2006, the NRCS had spent \$2.4 million in EWP funds in Texas towards Hurricane Rita response. The majority of the funds were used to remove downed trees and debris from drainage ways to alleviate flooding risks.

On Jan. 26, 2006, USDA Secretary Mike Johanns announced the availability of additional EWP funds, of which \$10.5 million would be for Texas.

This additional funding authorizes reimbursement on non-industrial forest lands for costs associated with downed timber removal and disposal of debris that could adversely affect health and safety on non-Federal land. Using a portion of these funds, the city of Beaumont entered into an agreement with NRCS for a major stream bank project to stabilize the area around a major water supply intake pipe for the city.

"Months later, we are still recovering," Reynolds reflects. "The land will be scarred for years by the devastation, but the people are not. They are coming back."

NRCS is USDA's lead technical agency for conservation programs. While commonly known as a natural resource conservation agency that works primarily with agricultural land users to reduce soil erosion, improve water quality, improve plant health, and to restore wildlife habitat, NRCS also repairs watershed damages that affect life and health through the EWP program.

HURRICANE RITAfacts

- ▶ Made landfall near the Texas-Louisiana border between Johnson's Bayou, Louisiana, and Sabine Pass, Texas, on September 24, 2005.
- ▶ Winds at landfall were 115 miles per hour, a category 3 hurricane.
- ▶ The American Insurance Services Group estimated the insured damage caused by Rita was \$5.05 billion. An estimate of uninsured losses yields an estimated total damage of about \$10 billion.
- ▶ Rita affected approximately 86,000 square miles, an area about the same size as the state of Minnesota.
- ▶ Approximately 2 million people evacuated.
- ▶ Seven fatalities have been directly attributed to the forces of Rita; four in Texas.



EWP Programfacts

Objective:

Provide assistance to project sponsors in implementing emergency recovery measures to relieve imminent hazards to life and property created by a natural disaster that causes a sudden impairment of a watershed.

Program Activation:

- Federal disaster declaration
- Eligible Sponsors: County and municipal governments and other local governmental entities, such as drainage districts, municipal utilities districts, etc.

Sponsor Responsibilities:

- Providing local share of construction costs (25%)
- Securing all land rights
- Securing all required permits
- Carrying out any operation and maintenance that may be required

NRCS Responsibilities:

- Provide team for planning assistance through a Damage Survey Report (DSR)
- Compile all requests (DSRs) and prioritize
- Request funding
- Commit funds (when available) through project agreement

Standard Eligible Measures:

- Reduce threats to life or property from watershed impairment – erosion, debris, sediment
- Provide protection from additional flooding or soil erosion
- Remove debris that would affect runoff or erosion
- Restore hydraulic capacity
- Reduce applicable threats to a stable condition which approximates the conditions that existed before the impairment of the watershed

Hurricane Rita Expanded Authority:

- Animal carcass disposal – 278,000 chickens died during the hurricane. Because their burial could pose a threat to water quality in the area, NRCS properly disposed of the carcasses based on soil type and location to water.
- Forestland debris on private forestlands considered to be a fire hazard was removed.
- “Green debris” – any debris determined to pose a health and safety risk to the public was removed.

Program Outlays:

- Initial \$1.5 million for exigency activities authorized prior to Rita landfall – 100% cost share.
- Congress later authorized more standard program dollars at a 75 percent NRCS and 25 percent sponsor cost-share ratio.
- Program dollars authorized by Congress for EWP activities under Hurricane Rita totaled approximately \$14.2 million.
- NRCS and sponsors have obligated \$10.9 million.



EWP projects

Projects completed through the Emergency Watershed Protection program fell into three categories:

Debris Removal

Remove debris that affects runoff to restore the hydraulic capacity of a drainage way. Lessens the risk of future flooding.

Green Debris Removal

Remove green debris, primarily downed trees, from roadways and other public areas that pose a health and safety risk to the public.

Bank Stabilization

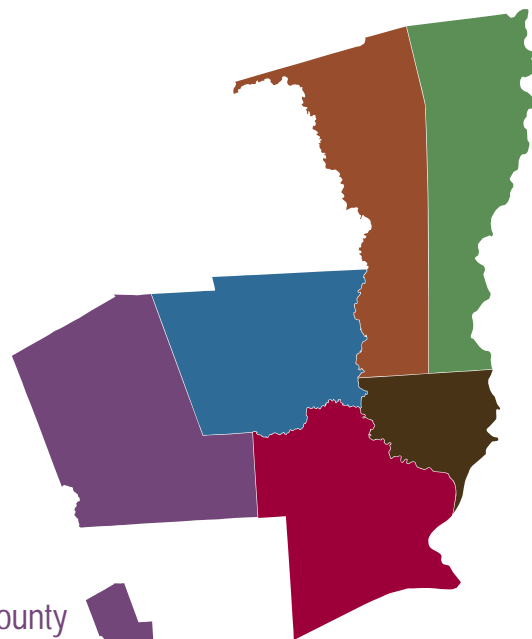
Reduce excessive erosion that impairs the proper function of a watershed.

Number of Contracts: 37

Tons of debris removed: 433,227

Value of protection provided by debris removal: \$76.1 million

Total Project Costs: \$10.9 million



HardinCounty

Number of Contracts: 9

Type of Projects: Debris removal, green debris removal.

Project Sponsors: Lumberton, Silsbee, Hardin County, Hardin County Water Control Improvement District, Hardin County Precincts 1, 2, and 3, and Texas Department of Transportation.

Miles of debris removed: 12.5

Value of protection provided by debris removal: \$23.6 million

Total Project Costs: \$1.5 million

JasperCounty

Number of Contracts: 5

Type of Projects: Debris removal, green debris removal, bank stabilization

Project Sponsors: Jasper, Jasper County, Jasper County Precincts 1, 2, 3, and 4.

Miles of debris removed: 3.8

Tons of debris removed: 5,710

Value of protection provided: \$19.7 million

Total Project Costs: \$1 million

JeffersonCounty

Number of Contracts: 8

Type of Projects: Debris removal, green debris removal, bank stabilization

Project Sponsors: Beaumont, Groves, Nederland, Port Arthur, Port Neches, Jefferson County Drainage Districts 3 and 6.

Miles of debris removed: 54

Tons of debris removed: 233,830

Value of protection provided: \$34.9 million

LibertyCounty

Number of Contracts: 1

Type of Project: Erosion control on the Trinity River on the north end of the Port of Liberty

Project Sponsor: Liberty

Value of protection provided: \$3 million

Total Project Cost: \$1.3 million

NewtonCounty

Number of Contracts: 7

Type of Projects: Debris removal, green debris removal, and bank stabilization

Project Sponsors: Newton, Newton County Precincts 1, 2, 3, and 4.

Tons of debris removed: 21,400

Value of protection provided: \$11.8 million

Total Project Costs: \$575,000

OrangeCounty

Number of Contracts: 7

Type of Projects: Debris removal, green debris removal.

Project Sponsors: Orange, Vidor, West Orange, Orange County Drainage District, Orange County, and Texas Department of Transportation.

Miles of debris removed: 781

Tons of debris removed: 172,287

Value of protection provided by debris removal: \$33 million

Total Project Costs: \$2.4 million

A Story of gratitude

What took Hurricane Rita a matter of hours to destroy has taken communities along the Texas Gulf Coast months to piece back together.

"When we first got down here after the hurricane, there were trees everywhere and mountains of debris," said Hank Wiederhold, engineer with the USDA NRCS. "It was overwhelming; we didn't even really know where to start."

But start he did, going from community to community talking to officials about a program his agency administers called the Emergency Watershed Protection program.

EWP was established by Congress to respond to emergencies created by natural disasters. It is designed to relieve imminent hazards to life and property caused by watershed impairments as the result of natural disasters, like hurricanes. Following Hurricane Rita, the program's authority was expanded to include green debris removal in city right of ways and public areas for safety and health reasons.

The hurricane snapped trees like toothpicks, scattering debris over a nine-county area in east Texas. "Removing debris was our top priority," said Jim Wolf, director for the City of Orange public works and engineering department. "We started with the streets and moved out from there."

In the City of Orange, NRCS has provided more than \$142,000 in financial assistance; the city provided nearly \$58,000 as a project sponsor.

"Without EWP so many things could not have been fixed as timely as they were; other infrastructure issues would have had to wait," Wolf said. Getting rid of the green debris, he explained, took care of a large health and safety issue as the debris piles were becoming breeding areas for rats and mosquitoes.

"NRCS assistance has been a blessing for us," Wolf said. "We would have been hurt far worse financially. We had to bring everything back from nothing."

Right next door in the city of Groves, Texas, city manager D.E. Sosa said they were dealing with thousands of cubic yards of green debris. It made every city street impassable and clogged ditches and storm water paths.

"EWP allowed us to get in there and remove the debris much faster than if we had to do it on our own," Sosa said. The payoff, he said, was experiencing only minor flooding following a 17-inch rainfall in a 12-hour period in June 2006.

"If we hadn't had the debris cleared out, it would have backed water up everywhere," he said. "It would have been catastrophic."

Closer to the coast, the city of Port Arthur was hit hard by the hurricane.

"Port Arthur had the most extreme green debris problem we encountered," Wiederhold said. Work to remove it started shortly after the hurricane and took the city months to finish.

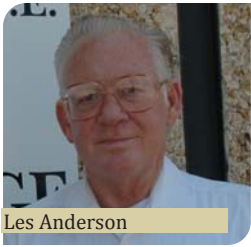
"EWP sounded so good to us and it has come through for us," said John Comeaux, director of public works for the city of Port Arthur. "It has been the only bright spot in this whole ordeal."

The city was so thankful for NRCS's assistance, it declared NRCS and EWP Program Day on Aug. 1, 2006.

Orange County also worked with NRCS to remove green debris from the 450 miles of



county roads they maintain. Les Anderson, county engineer, explained the issues from debris are twofold. First, he said, you have to clear roadways for emergency vehicles and to accommodate other traffic. Second, is the removal of debris to keep drainage areas open to prevent flooding.



"Without the help we got from NRCS, we would not have been able to remove debris as quickly as we did," Anderson said. "It would have been postponed because of economics, and future damage would probably have cost us even more."

In addition to the city and roadway debris removal, NRCS also offered typical EWP assistance in the removal of trees and other debris that clogged miles of drainage channels.

After Hurricane Rita hit, Jefferson County Drainage District 3 board members found their drainage ways full of debris, which greatly increased the probability of future flooding threatening life and property.

While removing the debris was a top priority, finding the resources to do it was another matter. "Without NRCS assistance, we would not be able to do what we have done," said Fred Folsom, manager of Drainage District 3.

Eight months after the hurricane, Jefferson County received a 100-year rainfall event. "If we hadn't been as far along as we were with debris removal, the damage from flooding would have been much worse," Folsom said.

Folsom said he has never seen a government program work like EWP. "Often times, a government program will benefit a few people, but this program benefited everyone in our area."

And the benefits, he said, go beyond life and property. "It would take me a long time to sit down and figure out all of the other benefits to having the debris removed and the bayous functioning as they should," he said. "It's brought life back to the marsh; that's the only way I can describe it."



Another drainage district in Orange County encountered the same issues as they did in Jefferson County.

"We had so much debris in our drainage ditches, you could have walked across the bayou on logs and not even gotten your feet wet," said Wilbert Duhon, general manager of the Orange County Drainage District. "We had a little money in our budget for removing debris, but not near enough to take care of a storm like this."

Duhon cited several times the area received rain following the hurricane and the county sustained little damage from flooding. "If that rain had come and we hadn't cleaned out

debris like we had, we would have had a lot of flooding and a lot of damage to homes."

NRCS also provided assistance to Hardin County to remove debris from clogged drainage ways.

"Without the help we got from NRCS, we would not have been able to remove debris as quickly as we did."

- Les Anderson

"There is no way we could have done this job alone," said Pat McGallion, Hardin County Commissioner. "We couldn't have done it financially, physically, or mentally. I don't know what we would have done without it."



Following the hurricane, downed trees made many roads and streets impassable. Much of this debris ended up on roadsides that NRCS later helped remove.



Debris from roadsides was collected and burned.

Port Arthur Proclaims NRCS Day

On Aug. 1, 2006, the city of Port Arthur, Texas, declared it Natural Resources Conservation Service (NRCS) and Emergency Watershed Protection (EWP) Program Day for assisting the city in overcoming “the devastation that Hurricane Rita and its aftermath caused for the community in the areas of widespread waterway debris, vegetation restoration, and riverbank stability.”

NRCS has provided Port Arthur with approximately \$750,000 in financial assistance through EWP. “We are so grateful that NRCS came to us and offered some help,” said John Comeaux, Port Arthur director of public works. “You’ve helped us financially and with morale because you truly were here to help.”

The cost-share funding provided by NRCS has been used primarily to remove tree and other debris left along roadsides that created a safety hazard from both a visibility and health standpoint. This expanded program authority was used in 12 other communities along the Texas Gulf Coast impacted by Hurricane Rita.

“Your assistance has been the one bright spot in the whole ordeal,” Comeaux said. “I can’t say enough about how this help has saved us.”



Kathleen Pinckney, center, NRCS contract specialist, holds a plaque presented to NRCS by the city of Port Arthur, Texas, for assistance provided through the Emergency Watershed Protection program. From left to right: Gerald Robinson, Port Arthur solid waste superintendent; Emil “Trey” Bethke, NRCS district conservationist, Hempstead; John Comeaux, Port Arthur director of public works; Pinckney; Hank Wiederhold, NRCS civil engineer, Nacogdoches; Warren Jones, Jr., Port Arthur crew supervisor for trash collection; and Rubin Felton, Port Arthur assistant superintendent of solid waste collection.



A channel that was clogged with downed trees and other debris was cleared with NRCS Emergency Watershed Protection funds to open the channel to prevent additional flooding.

“It’s brought life back to the marsh; that’s the only way I can describe it.”

- Fred Folsom



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